A national laboratory of the U.S. Department of Energy
Office of Energy Efficiency & Renewable Energy

NREL National Renewable Energy Laboratory

Innovation for Our Energy Future

Announcement of a Cooperative Research and Development Agreement Opportunity for Blade Testing Technologies and Equipment

Description

The U.S. Department of Energy's (DOE's) National Renewable Energy Laboratory (NREL) is seeking one or more cooperative research and development agreement (CRADA) partners to develop testing technologies and testing equipment for static and fatigue testing of wind turbine blades up to approximately 100 m (330 ft) in length. Interested parties should respond to this CRADA opportunity announcement with a proposal by November 7, 2008.

A CRADA is an agreement designed to enable collaborations between government-owned, contractor-operated laboratories and industry partners. It is not a government financial agreement (grant or government cooperative agreement) and no funds are transferred from the laboratory to industry partners. CRADAs allow government resources to be allocated in support of the collaborative effort, provided such shared resources are aligned with DOE's programmatic mission and intent. Shared resources and expenditure of all funds are subject to the approval of DOE. All government funding identified in this CRADA opportunity announcement is subject to future federal appropriations and shall not be construed to be an obligation of the United States Government.

Background

Blade testing is required to meet wind turbine design standards, reduce machine cost, and reduce the technical and financial risk of deploying mass-produced wind turbine models. NREL's National Wind Technology Center (NWTC) in Colorado is the only blade test facility in the United States capable of performing full-scale static and fatigue testing of multi-megawatt-scale wind turbine blades. Numerous new blade facilities are being built throughout the world. New, larger, wind turbine blades, materials, and designs (such as flap-twist-coupling) require novel testing technologies and testing equipment. For more than twenty years, NREL has been developing blade testing technologies that are used internationally, and has invented and prototyped equipment for static and fatigue testing of blades.

Primary Objective

The primary objective of this CRADA opportunity announcement is to identify industry partners interested in and qualified to develop testing technologies and test equipment, including scaling up, value engineering, and proving existing NREL testing equipment, to advance NREL's mission and DOE's national energy goals.

CRADA applicants are expected to provide technical assistance and other shared resources or funding for the development of blade testing technologies and testing equipment necessary to accomplish this objective, and to commercialize and deploy existing NREL blade testing

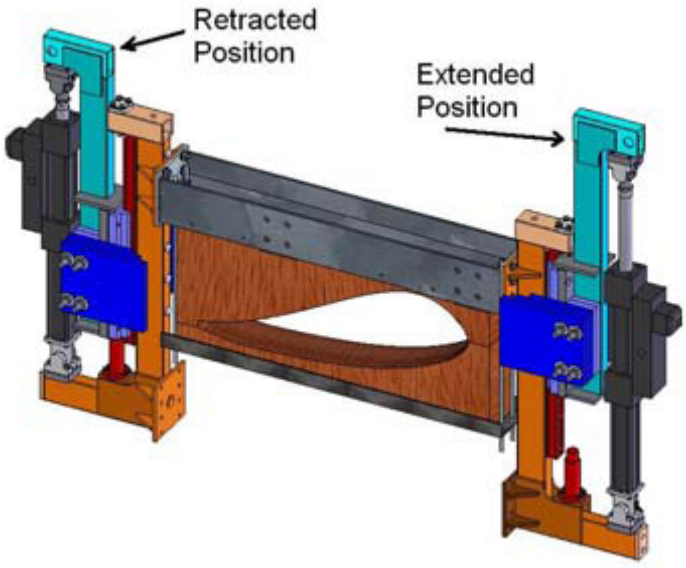

Figure 1: NREL Universal Resonance Excitation Blade Testing Hardware

technologies and new blade testing technologies developed under the CRADA.

NREL, in conjunction with the DOE Wind Program, intends to allocate the following shared resources, subject to the availability of DOE funding:

- NREL research and engineering collaboration, technical assistance, and testing at the NWTC for the duration of the CRADA.
- Rights to intellectual property for technologies and equipment invented or developed under the CRADA, pursuant to NREL–CRADA terms and conditions provided with this opportunity announcement.
- Good faith negotiations for non-exclusive licensing of existing NREL intellectual property to facilitate the commercialization and deployment of existing NREL testing technologies and testing equipment, or technologies and equipment invented or developed under this CRADA.

This CRADA opportunity announcement does not commit or obligate DOE or NREL to use or procure any testing technologies or testing equipment that may be developed under this CRADA.

Proposal Submission

At a minimum, proposals must include the development of testing equipment hardware and testing technologies to perform flapwise and edgewise resonance fatigue testing of blades up to approximately 100 m in length. Proposals may also include plans for further development of testing technologies and testing equipment such as dual-axis resonance fatigue testing, base-excitation fatigue testing, static testing, forced displacement testing, and software and controls development for testing blades up to approximately 100 m in length.

Proposals should not exceed 10 pages and concise proposals are encouraged. Proposers should also provide an executive summary that does not exceed two pages and is not included in the 10-page proposal limitation. Appendices will be accepted and are not included in the 10-page proposal limitation.

Each response to this CRADA announcement must specify a primary point of contact. If necessary, the NREL primary point of contact will e-mail questions for written response by the proposers and new information regarding the CRADA opportunity to the proposer's primary point of contact.

Proposer's questions should be addressed to the NREL primary point of contact, Jason Cotrell at the e-mail address below.

One digital, single PDF file, including the executive summary, proposal, and appendices, must be received by 5:00 PM Mountain Time, November 7, 2008, and sent to: jason_cotrell@nrel.gov.

Evaluation

The criteria below will be used to evaluate proposals with regard to the primary objective listed above.

- Alignment of proposed testing technologies and testing equipment development with NREL's goal to establish novel methods for testing new, larger wind turbine blades, materials, and blade technologies and DOE's national energy goals.
- Demonstrated commitment of non-DOE technical assistance, resources, and funding for the development of testing technologies and testing equipment.
- Demonstrated ability and specific plans to commercialize and deploy existing NREL blade testing technologies and new blade testing technologies developed under the CRADA.

Proposals and written responses to questions (if any) will be evaluated by NREL and DOE staff. Selection of no, one, or more CRADA industry partners will be solely at the discretion of NREL. Proposers shall appropriately identify and mark any confidential or proprietary proposal information. The evaluation process is targeted to be completed by late November, 2008, after which a CRADA statement of work and schedule will be negotiated with the selected proposer or proposers.